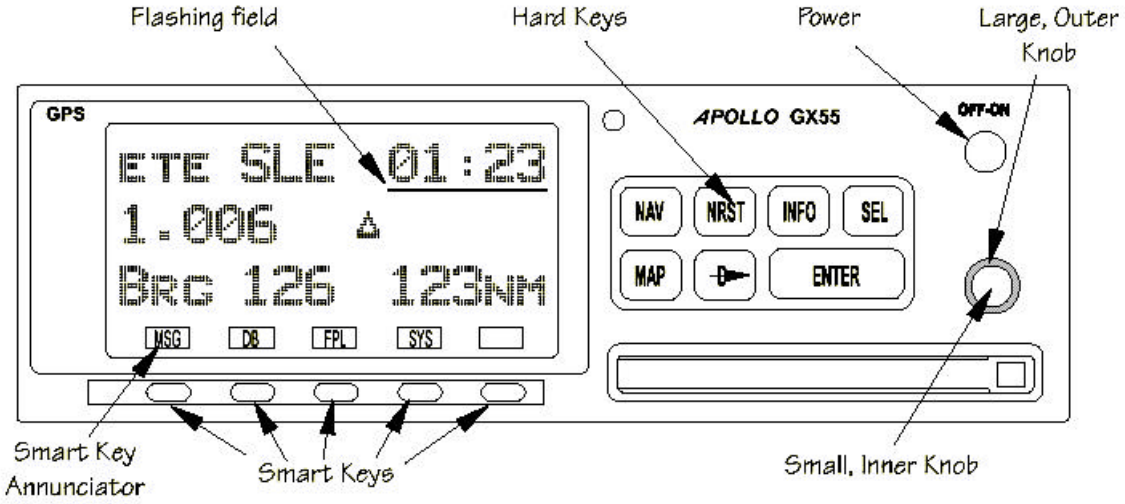
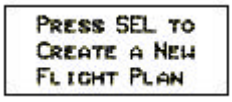
USING THE GPS



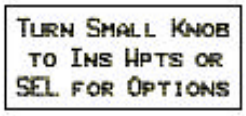
Creating a Flight Plan

Press FPL.
Turn the LARGE knob to reach the Create a New Flight Plan page.
Then, press SEL.

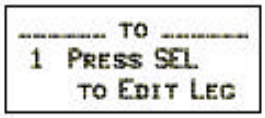


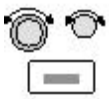
The Plan Name page will appear and the first space will flash. The underlined spaces will disappear after you name the flight plan.
Use the LARGE knob to move the cursor.
Use the SMALL knob to select characters.

After naming your flight plan, press ENTER. You will now have the choice of inserting waypoints into the flight plan or performing other options.
Turn the SMALL knob to start inserting waypoints or use the SEL for options.

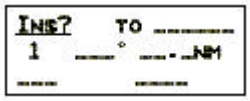


The first flight plan leg page will be displayed. Press SEL to start inserting waypoints.

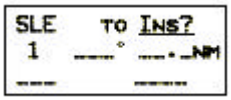




The Ins? prompt will flash. Press ENTER. This will take you to the waypoint database. The Waypoint Type will flash. Turn the SMALL knob to choose the Waypoint Type (Airport, VOR, NDB, INT, or USER).
Turn the LARGE knob to move the cursor (flashing character) to either the identifier or the city/facility name. Turn the SMALL knob to change the flashing character and show waypoints starting with that character.
Press ENTER after selecting a waypoint.



The identifier will be entered and the TO waypoint position for the first flight plan leg will have a flashing “Ins?” prompt. Continue entering waypoints into your flight plan. Press ENTER to add the next waypoint.



Press SEL to quit inserting waypoints.

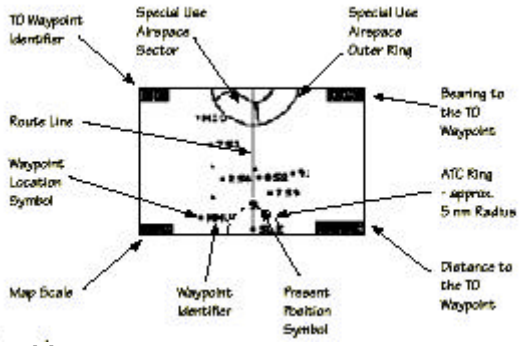
Select a flight plan from your stored plans

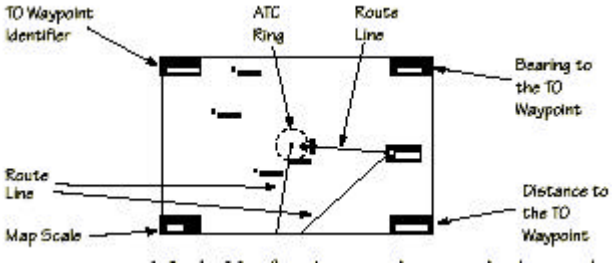
Activating a Flight Plan

Press FPL. Turn the LARGE knob to the desired flight plan.
Press SEL. The bottom line of the flight plan display will flash.
Turn the SMALL knob to choose “Activate?”.
Press ENTER to activate the flight plan

Using the Moving Map

Press MAP. Turn the LARGE knob to view the map and nav information, full screen map, and map setup displays. In map setup you can change the values of map. When you are flying a ROUTE SEARCH: route line should be ON, Map Orient should be TRACK UP, and Map Reference should be PLANE.
For other types of flying: route line should be OFF, Map Orient can be either: NORTH or TRACK, and Map Reference remains as PLANE.
While viewing the map, turn the SMALL knob to change the map scale.
The smart keys will reflect the options chosen for display on the map: airport, vor, ndb, special use airspace.
When using the Grid search ability, the grid pattern will appear in the map (including the turn information).

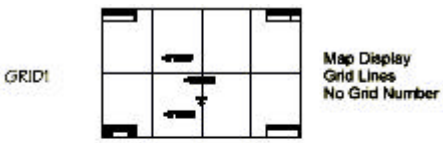


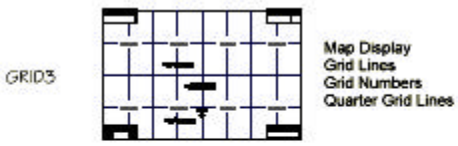


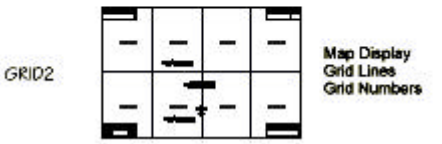
Grid Searching

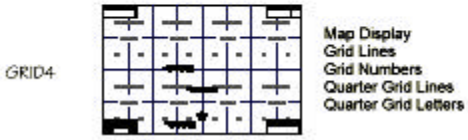
There are 2 basic types of grids: US and basic. The US grid system uses the Sectional charts (DET 188 for example), the BASIC grid system uses Latitude/Longitude.

These are the 4 options available under US grid system:

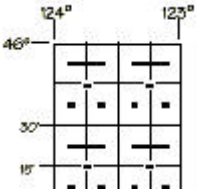








This the way the BASIC grid system will appear:
GRD – No grid lines
GRD 1 – 60 minute grid lines
GRD 2 – 30 minute grid lines
GRD 3 – 15 minute grid lines



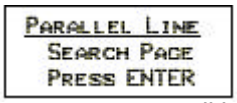
The type of grid system to be used depends on the mission. It can be changed from the MAP SETUP screen.
For a **US** grid sytem: SAR MAP must be ON, Grid Type is US and Position is the sectional you are to search DET (detroit), NYC (New York), MON (montreal).
For **Basic**: SAR MAP must be ON, Grid Type is BASIC and Position must be NW (represents the americas continent). In addition, the Latitude and Longitude of the south east corner of the search area must be entered (we use 40/070).

Selecting a Pattern (Parallel, Creeping or Expanding Square)

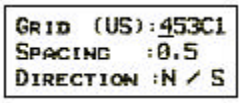
Press the PATTERN button when on the SAR Map view.

Turn the SMALL knob to select the desired pattern type.
Press ENTER to choose the pattern and to start selecting the available options.

Parallel Line



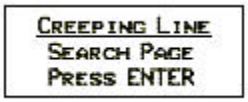
Press SEL to start editing the Grid selection. The first character will flash. Enter the Grid Number followed by any sub-grid information. To search an entire grid, enter just the number (188), to search the 'A' or 'B' or 'C' or 'D', enter 188A1 (the 1 signifies that you want to start on pass #1).
Turn the LARGE knob to the Spacing option. Turn the SMALL knob to select the desired pattern spacing (1.0 miles).



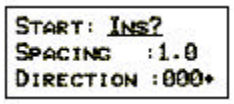
Turn the LARGE knob to the Direction of Travel option. Turn the SMALL knob to select the desired Direction of Travel. You may select N/S or E/W.
Press ENTER when selections are complete.
Press ENTER to activate the search pattern. You will automatically return to the SAR Map page. The PAT annunciator above the smart key will be highlighted. If you press PAT key again, you will disable the search pattern.

Creeping Line

Turn small knob until you see:



Press SEL. The Starting Waypoint field will flash “INS?” (insert) or “CHG?” (change). Press ENTER to start editing the Starting Waypoint selection.



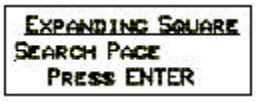
Choose a waypoint using normal selection methods. Then, press ENTER.
The Spacing option will flash. Turn the SMALL knob to select the desired pattern spacing.
Turn the LARGE knob to the Direction of Travel option. Turn the SMALL knob to select the desired Direction of Travel. You may select a direction from 0 to 359.
Turn the SMALL knob one position to view the next setup page.

Press SEL to start editing the Leg Length. Turn the SMALL knob to choose the Leg Length.
Turn the LARGE knob to the Start Side selection. Turn the SMALL knob to choose Left or Right.

Press ENTER when selections are complete.
Press ENTER again to activate the search pattern. You will automatically return to the SAR Map

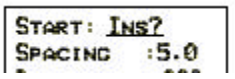
Expanding Square

Turn the small knob until you see:



Press SEL. The Starting Waypoint field will flash “INS?” (insert) or “CHG?” (change).
Press ENTER to start editing the Starting Waypoint selection.

Choose a waypoint using normal selection methods. Then, press ENTER.



Turn the LARGE knob to the Spacing option. Turn the SMALL knob to select the desired pattern spacing.

Turn the LARGE knob to the Direction of Travel option. Turn the SMALL knob to select the desired Direction of Travel. You may select a direction from 0 to 359.
Press ENTER when selections are complete.
Press ENTER again to activate the search pattern. You will automatically return to the SAR Map

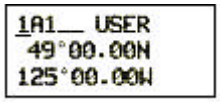
MARK a POSITION

While viewing the SAR Map page, press MRK key.
The User waypoint creation page will appear with the current Lat/Lon position. The default waypoint name will be SAR000 (the first time). Subsequent User waypoints will automatically increment to SAR001, SAR002, etc.
You may change the name and position with the LARGE and SMALL knobs.
Press ENTER to store the displayed name and position.

Create a user waypoint using US GRID

Press the DB smart key.

Turn the LARGE knob to the “Create User Wpt By US Grid” page.
Press ENTER.

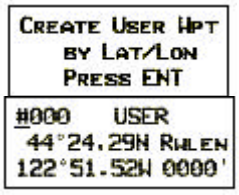


The first character of the Grid will flash. Use the LARGE and SMALL knobs to select the desired Grid location. This relies on the setting of sectional grid to DET, NYC or MON. The grid area can be further defined as A,B,C,D, and then the pass number within that area. Once the number is set (ie. 188A1), press ENTER to save the displayed Grid location as a User waypoint. The latitude and longitude of the grid will be entered.

Flying directly to a GRID

Press DIRECT-TO. Turn the SMALL knob to choose the User waypoint type, if necessary.
Use the LARGE and SMALL knobs to select the desired waypoint.
Press ENTER.
You can also include the grid as a waypoint in a flight plan.

Entering Latitude and Longitude as a user way point
Press the DB smart key.



Turn the LARGE knob to view the “Create User Wpt By Lat/Lon” page, and then press ENTER.

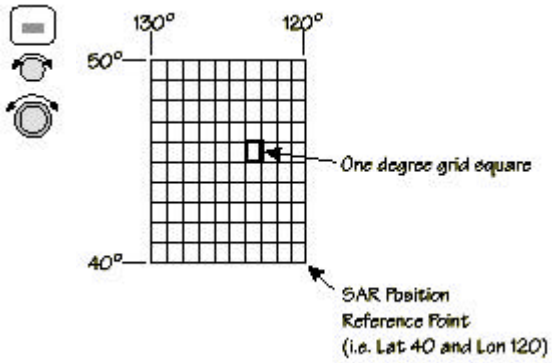
The first character of the waypoint name will flash. Turn the SMALL knob to select the desired character. Turn the LARGE knob clockwise one click to move to the next character. Continue to select the needed characters for the Waypoint Name, Latitude, Longitude, and Runway Length. Press ENTER when you have finished entering the waypoint information.

Using Basic grid

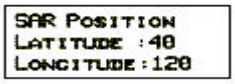
The Basic grid system relies on the South East corner of the area defined by a specific latitude and longitude in increments of 10 degrees. For example: 40/70 represents the square created by the 40°N latitude and 70° W longitude. This is what we will use to start the selection for searching in NYW. This area appears on the NYC section and defines an area that covers all of NY state.

Setting SAR Position to Basic Grid Type

From the SAR Map Setup page turn the SMALL knob clockwise to the SAR Position page. The SAR Position page only appears when the Basic Grid Type is selected. The Position location refers to the LAT/LON of the southeast starting corner for the selected grid.

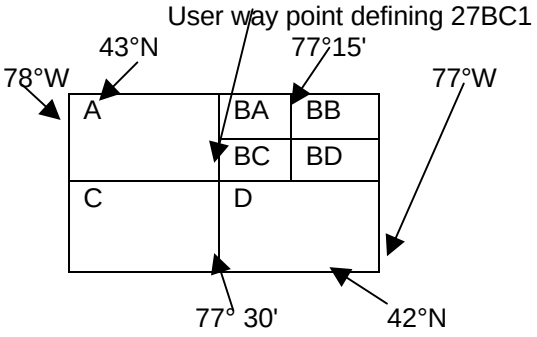


Press SEL and use the SMALL and LARGE knobs to set the grid position.
The LAT and LON smart keys activate selection of the Lat and Lon coordinates. Coordinates are selected in 10º increments.
Press ENTER.

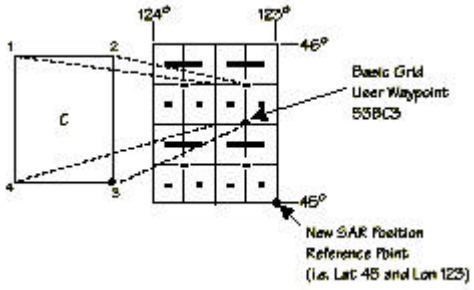


Flying to a specific point in the Basic Grid

FLG group area includes the grids: 42/77, 43/77, 42/78 and 43/78. These grids can be broken down into the sub-grid areas of A,B,C,D and even further into AA,AB,AC,AD. The SE corner defines the area, and the sub-grids are by 30 minutes (A,B,C,D) and then 15 minutes (AA).



If you review the basic grid for the area you want to search, and then use the overlay. It will help you visualize where the area you are to search. In the above diagram, our search area would be defined by 27 (2 added to 40, and 7 added to 70) and then the sub-grids with in that area (BC for example). The last digit of the area defines the starting point in that area (1 is NW, 2 is NE, 3 is SE and 4 is SW corners) making our user point 37BC1.
The same process would be used for a seach area in 43/77, 42/78, etc.
We can use the same type of search patterns that are available under US grid system, but the predominate one is Parallel Track.



If you want to fly to the Bravo-Charlie 3 corner of the 45°N and 123°W grid, you would define the corner as a USER waypoint with the name “53BC3.” The SAR position is set to 40°N and 120°W.
The “5” comes from the 5° added to 40°N. The next number, “3”, comes from the 3° added to 120°W. The first letter, “B”, notes the 30’ grid divisions. The second letter, “C”, notes the 15’ grid division.

Create user waypont by basic grid

Press the DB smart key. Turn the LARGE knob to the “Create User Wpt By Basic Grid” page. Press ENTER.

```
CREATE USER WPT
  BY BASIC GRID
  PRESS ENTER
```

The first character of the Grid will flash. Use the LARGE and SMALL knobs to select the desired Grid location.

```
00A1_ USER
 40°00.00N
120°00.00W
```

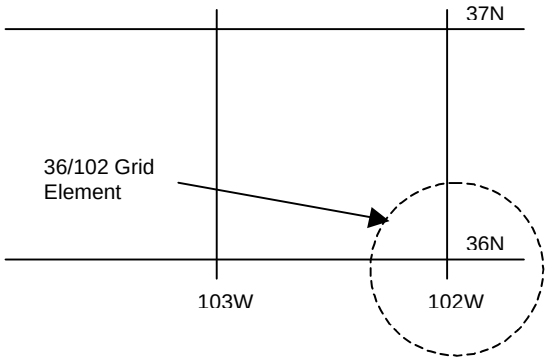
Press ENTER to save the displayed Grid location as a User waypoint.

```
53BC3 USER
 44°30.00N
122°15.00W
```

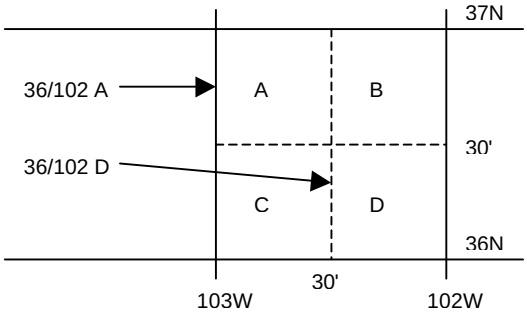
Standardized Latitude/Longitude Grid System
From outdated CAPR 55-1

This method prescribes the use of latitudes and longitudes as the basis of grid identification. Any chart or map, regardless of specific scale, can be used provided a source of latitude and longitude identification is available.

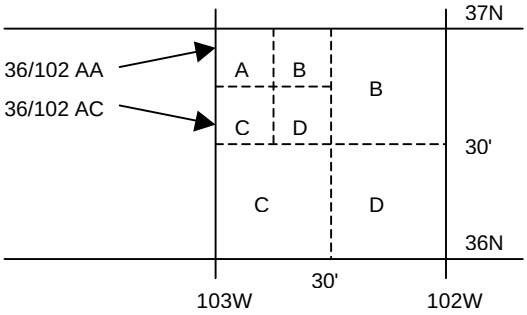
The basic element of this system is one full degree of latitude and longitude forming a square. The grid element is then designated numerically by the full degree coordinates in the lower right corner (southeast) of the grid.



Each one degree grid can be further divided into quarters by division at the thirty minute points. The quarter thus obtained will be lettered A and B, top half left to right, and C and D, bottom half left to right.



Further division may be made by subdividing at fifteen minute intervals in the same manner as paragraph above. Thus, the northwest most 15’ grid would be identified as 36/I02AA.



Gridding in this manner need not necessitate marking maps or charts but may be accomplished by a rapid reference to the latitude/longitude identifying the grid element and then making a visual interpolation.